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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
before the Board of Appeals and Interferences

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Reinout G. Oussoren
Jack T. Clements

Serial No. 09/430,063

Filed: 10/29/99

UNITARY FILTER CARTRIDGE

Examiner: Minh-Chau Pham

Art Unit: 1724

Attorney Docket No. BHAG.68900

APPELLANT'S BRIEF

Pursuant to the provisions of 37 CFR 1.192, Appellant files this brief in triplicate, accompanied by the requisite fee, in its appeal of the final rejection dated May 22, 2001 of Claims 1-16 in the subject application.

REAL PARTY IN INTEREST

The real party in interest is BHA Group Holdings, Inc., a Delaware corporation having its principal place of business at 8800 East 63rd Street, Kansas City, Missouri, which is assignee of the subject application from the inventors Reinout G. Oussoren and Jack T. Clements in the assignment recorded October 29, 1999, at Reel/Frame 010359/0643.

RELATED APPEALS AND INTERFERENCES

There are no other appeals or interferences known to Appellant, the Appellant's legal representative, or assignee which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

The Board is advised, however, that Appellant has filed on August 27, 2001 a Petition to the Commissioner in this case seeking to expunge from the Final Office Action dated May 22, 2001 a gratuitous and legally erroneous infringement opinion rendered by the Patent Examiner. More specifically, the Commissioner has been requested to expunge, in its entirety, the sentence reading "Therefore, the Brunner filter is NOT an infringement of Applicants' earlier Patent 5,632.791" which appears at the bottom of Page 5 of the Final Office Action dated May 22, 2001 which is the subject of this Appeal. No action of this Petition has yet been received.

As grounds for its Petition, Appellant advised the Commissioner that there is pending litigation in the United States District Court for the Western District of Missouri styled BHA Group, Inc. v. Midwesco Filter Resources, Inc., Civil Action No. 4:97cv00796 which involves whether or not a filter having a construction very similar to that shown in Fig. 5 of the Brunner reference infringes United States Reissue Letters Patent No. RE37,163 (formerly U.S. Letters Patent No. 5,632,791).

The statement of the Examiner which the Appellant seeks to expunge is an erroneous, gratuitous opinion which the Examiner is not authorized by law to render, and which goes beyond the duties of a patent examiner. The opinion is likely to affect the rights of the respective parties in the referenced litigation and, moreover, neither party to the litigation has the opportunity to cross-examine the Examiner as to the basis of her opinion.

A careful examination of the M.P.E.P. reveals no authority for any examiner to render infringement opinions in connection with the examination of patent applications. The offending language used by the examiner in this case is nowhere approved in Chapter 700 of the M.P.E.P. It is believed that the only time that Chapter 700 of the M.P.E.P. even mentions infringement is in

connection with a petition to make special (§ 708.02) in which there is absolutely no provision that the examiner can challenge a supporting statement of actual infringement made by the applicant, assignee or attorney/agent registered to practice before the PTO.

Additionally, even though the Examiner chose to place the gratuitous infringement opinion in the Office Action without authority and far beyond the scope of the duties of examiners in reviewing pending patent applications, the Examiner's opinion is legally erroneous. The language of Claim 1 of the Patent RE37,163 (formerly U.S. Patent No. 5,632,791) can be read directly on the Brunner filter construction shown in Figs. 1 and 5 of the Brunner U.S. 5,964,909 in order to establish direct literal infringement. Moreover, in rendering the erroneous and gratuitous opinion, the Examiner had no opportunity to consider any of the facts and circumstances present in the pending litigation which is referenced to support a finding of patent infringement under the Doctrine of Equivalents.

Since Brunner U.S. 5,964,909 is also involved in this appeal before the Board, Appellant believes that the foregoing information concerning its Petition to the Commissioner may directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal, even though the Petition cannot properly be considered a related appeal or interference.

STATUS OF CLAIMS

This application contains Claims 1-16 which comprise all the claims appealed.

STATUS OF AMENDMENTS

No amendment has been filed subsequent to the final rejection dated May 22, 2001. However, the final Office Action objects to the informality of a missing patent number and issue date on page 1, line 7 of the specification. Such information was not previously available. Appellant now

stands ready to correct page 1, line 7 in the specification from the informal language "5,632,791 and subsequently surrendered for U.S. Patent No. RE ***** reissued *** **, ****, which" to read -- 5,632,791 and subsequently surrendered for U.S. Patent No. RE37,163 reissued May 8, 2001, which --.

SUMMARY OF INVENTION

A filter cartridge 1 having a unitary construction with a pleat pack filter 2 formed securely about an interior screen 4 for installation in the tube sheet 3 of a baghouse. Opposite ends of the pleat pack 2 are integrally received within a bottom end cap 6 and an upper fitting 8. The bottom end cap 6 may be molded to follow the contour of the pleat pack 2 as shown in Figs. 1 & 2, or may be molded as a disk 131 with an inwardly projecting groove 134 to centrally align the pleat pack 2 therein as shown in Figs. 21 & 22. The upper fitting 8 is formed of a resiliently flexible material and includes an upper flange 26 to overlie and seal with the upper surface of the tube sheet 3, a tube sheet mouth insert 24 to seal with a circular opening 5 in the tube sheet 3, a contoured transition 20 to seal with the lower surface of the tube sheet 3, and a lower cylindrical collar 17 which permanently secures the upper end of the filter pack 2. The contoured transition 20 of the fitting 8 is alternatively molded with either an exterior bulge as shown in Fig. 2 or an interior bulge 34 as shown in Fig. 5. The transition 20 with an exterior bulge is resiliently deformed inwardly to pass through the circular opening 5 of the tube sheet 3 during installation. The transition 30 with an interior bulge 34 freely passes through the circular opening 5 of the tube sheet 3 during installation and then receives an expander 40 to outwardly deform the material to seal with the lower surface of the tube sheet 3. In Figs. 19 & 20, the upper flange 116 of the fitting 110 may be formed as a circumferential scallop edge 118 to facilitate tool access for removal of the expander 40.

ISSUES

Whether Brunner U.S. 5,964,909 issued October 12, 1999 is an effective 102(b) prior art reference against the subject application.

GROUPING OF CLAIMS

It is believed that the Claims 1-16 are a single group of which Claim 1 is representative.

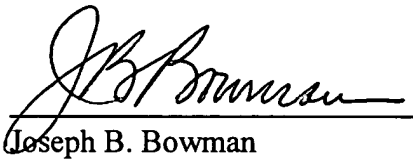
ARGUMENT

The claims presented for examination have been rejected under 35 U.S.C. 102(b) as being anticipated by Brunner U.S. Patent No. 5,964,909. The rejection is clearly erroneous.

Brunner is not an effective prior art reference against the present application. The Brunner patent issued October 12, 1999. Even without the priority claim in the present application to an earlier filed case, the subject application was filed October 29,1999. In order to be an effective 102(b) prior art reference, Brunner would have to have an issue date before October 29, 1998. Brunner clearly does not have an issue date as early as required, and therefore, must be removed as the basis for the Examiner's rejection.

In view of the foregoing argument, the Examiner's final rejection of Claims 1-16 under 35 U.S.C. 102(b) as being anticipated by Brunner is clearly erroneous. Accordingly, Appellant submits that Claims 1-16 are allowable and requests that the rejection of the final Office Action be overruled by the Board.

Respectfully submitted,



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APPENDIX

The following Claims 1-16 are involved in this appeal.

1. A unitary filter cartridge to be removably and sealingly received within a circular opening through a tube sheet separating the clean and dirty plenums of filtration apparatus, said tube sheet having an upper surface, a cylindrical mouth surface and a lower surface, said filter cartridge comprising:

a filter sleeve formed as a tubular member having an open upper end oriented toward said tube sheet and an open lower end oriented away from said tube sheet;

a tubular screen positioned interiorly of said filter sleeve for structural support thereof, said tubular screen having an open upper end oriented toward said tube sheet and an open lower end oriented away from said tube sheet;

a bottom end cap sealingly secured to the lower end of said filter sleeve to close said lower end of said filter sleeve; and

a unitary tubular, upper fitting including an upper flange extending above said tube sheet, a tube sheet mouth insert, a contoured transition and a lower cylindrical collar extending beneath said tube sheet all integrally formed of flexible, resiliently deformable material, said lower cylindrical collar of said fitting permanently securing said upper end of said filter sleeve, and said upper flange of said fitting overlying said tube sheet adjacent said circular opening to suspendingly support the filter cartridge from said tube sheet;

whereby, when said filter cartridge is installed in said tube sheet, said fitting deformably contacts said tube sheet on at least portions of the three tube sheet surfaces to affect sealing engagement therewith such that at least a portion of said flange of said fitting

seals with at least a portion of said upper surface of said tube sheet adjacent said circular opening, said tube sheet mouth insert of said fitting seals with said cylindrical mouth surface of said tube sheet, and at least a portion of said contoured transition of said fitting seals with at least a portion of said lower surface of said tube sheet adjacent said circular opening.

2. The unitary filter cartridge as in Claim 1, wherein said fitting is configured to satisfy a relation $0.3 < H/D < 0.85$; wherein D represents the diameter of said circular opening through said tube sheet and H represents a distance between the upper end of said filter sleeve and said circular opening through said tube sheet.

3. The unitary filter cartridge as in Claim 1 wherein, upon installation of said filter cartridge in said tube sheet, said contoured transition of said fitting includes a diameter slightly greater than the diameter of said circular opening to affect sealing engagement with at least a portion of said lower surface of said tube sheet and contours therefrom to a diameter less than or equal to the diameter of said circular opening integrally joining said lower cylindrical collar of said fitting.

4. The unitary filter cartridge as in Claim 3 wherein, prior to installation of said filter cartridge in said tube sheet, said contoured transition of said fitting being formed exteriorly in a frusto-conical vertical cross-section including a diameter greater than the diameter of said circular opening and being formed interiorly in a substantially uniform cylindrical vertical cross-section;

whereby, during installation, said transition is resiliently deformed inwardly to pass through said circular opening of said tube sheet and then deflects outwardly to affect sealing engagement with at least a portion of said lower surface of said tube sheet.

5. The unitary filter cartridge as in Claim 3 wherein, prior to installation of said filter cartridge in said tube sheet, said contoured transition of said fitting being formed interiorly in a

frusto-conical vertical cross-section and exteriorly in a substantially uniform cylindrical vertical cross-section with a diameter less than or equal to the diameter of said circular opening;

whereby, during installation, said transition is passed through said circular opening of said tube sheet and then resiliently deformed outwardly to affect sealing engagement with at least a portion of said lower surface of said tube sheet.

6. The unitary filter cartridge as in Claim 5, further comprising a tubular expander with an insertable band including an outer diameter substantially equal to or less than the inner diameter of said upper flange of said upper fitting, said band configured to engage interiorly said frusto-conical portion of said contoured transition of said fitting proximate said circular opening through said tube sheet to outwardly bias portions of the resiliently deformable fitting to affect sealing engagement with said cylindrical mouth surface of said tube sheet and with at least a portion of said lower surface of said tube sheet adjacent said circular opening.

7. The unitary filter cartridge as in Claim 6, said frusto-conical portion of said contoured transition of said fitting having an innermost diameter smaller than the largest diameter of said insertable band of said tubular expander whereby said band causes portions of said contoured transition to bulge outwardly beneath said tube sheet to affect sealing engagement with at least a portion of said lower surface of said tube sheet adjacent said circular opening.

8. The unitary filter cartridge as in Claim 7, said insertable band comprises a cylindrical vertical wall having a diameter larger than the innermost diameter of said frusto-conical portion of said contoured transition of said fitting to cause portions of said contoured transition to bulge outwardly beneath said tube sheet to affect sealing engagement with at least a portion of said lower surface of said tube sheet adjacent said circular opening.

9. The unitary filter cartridge as in Claim 7, said insertable band comprises a funnel wall tapering from a larger upper diameter, which is substantially equal to or less than the inner diameter of said upper flange of said upper fitting, to a smaller lower diameter, which is larger than the inner diameter of said filter sleeve; said funnel wall having an intermediate diameter larger than the innermost diameter of said frusto-conical portion of said contoured transition of said fitting to cause portions of said contoured transition to bulge outwardly beneath said tube sheet to affect sealing engagement with at least a portion of said lower surface of said tube sheet adjacent said circular opening.

10. The unitary filter cartridge as in Claim 7, said insertable band comprises: (a) a cylindrical vertical wall having a diameter larger than the innermost diameter of said frusto-conical portion of said contoured transition of said fitting to cause portions of said contoured transition to bulge outwardly beneath said tube sheet to affect sealing engagement with at least a portion of said lower surface of said tube sheet adjacent said circular opening; and (b) a circumferential groove in said cylindrical vertical wall to receive therein a portion of said frusto-conical portion of said contoured transition of said fitting.

11. The unitary filter cartridge as in Claim 6, said tubular expander further including a flange ring integrally joined to the upper end of said insertable band to overlie said upper flange of said upper fitting when said filter cartridge is installed in said tube sheet to affect sealing engagement between at least a portion of said flange of said fitting with at least a portion of said upper surface of said tube sheet adjacent said circular opening.

12. The unitary filter cartridge as in Claim 11, said upper flange of said fitting having an outermost circumferential edge with voids therein to provide a tool access between the

flange ring of said expander and the upper surface of the tube sheet to facilitate removal of said expander from engagement with said upper fitting for removing said filter cartridge from said tube sheet.

13. The unitary filter cartridge as in Claim 12, said upper flange of said fitting having a circumferential scallop edge with uniformly spaced voids to provide a tool access between the flange ring of said expander and the upper surface of the tube sheet to facilitate removal of said expander from engagement with said upper fitting for removing said filter cartridge from said tube sheet.

14. The unitary filter cartridge as in Claim 1, said bottom end cap sealingly secured to the lower end of said filter sleeve comprising a substantially cylindrical disk having an outside diameter greater than the diameter of said filter sleeve and being formed of flexible, resiliently deformable material, and a circumferential groove in said cylindrical disk which extends inwardly from the outside diameter of said disk to diameter at the bottom of said groove which corresponds to the outside diameter of said filter sleeve to concentrically align said filter sleeve with respect to said bottom end cap.

15. The unitary filter cartridge as in Claim 14, said bottom end cap further comprising a lower surface which extends beneath the lowermost end of said filter sleeve, and vertical grooves which extend upwardly from said lower surface to the lowermost end of said filter sleeve to vertically position said filter sleeve with respect to said bottom end cap.

16. The unitary filter cartridge as in Claim 15, said bottom end cap further comprising radial grooves which extend upwardly from said lower surface to the lowermost end of said tubular screen to vertically position said tubular screen with respect to said bottom end cap.